

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below.

Please cancel claims 22, 24 and 40 without prejudice.

Please add new claims 41-44.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the claims:

Claim 1-20 (cancelled)

Claim 21 (currently amended): An optical device for adjusting collinearly combining, for illumination in scanning microscopy, a first light beam and a second light beam having a different wavelength than the first light beam, the optical device comprising:

a first beam splitting device dispersive element configured to split a first reference beam from the first light beam and a second reference beam from the second light beam;

a second beam splitting device dispersive element configured to split a second third reference beam from the first light beam and a fourth reference beam from the second light beam;

a position detector configured to detect respective positions of the reference beams; and

a control element configured to independently adjust, a propagation direction of the first light beam as a function of the detected respective positions of the first and third reference beams and second and fourth reference beams, at least one of a propagation direction of the first light beam, a propagation direction of the second light beam, a position of the first light beam, and a position of the second light beam.

Claim 22 (cancelled)

Claim 23 (currently amended): The optical device as recited in claim 21 wherein the first ~~beam splitting device-dispersive element~~ includes a first interface, and the second ~~beam splitting device-dispersive element~~ includes a second interface.

Claim 24 (cancelled)

Claim 25 (currently amended): The optical device as recited in claim 24-21 wherein the dispersive element includes at least one of a prism, a grating, and an acousto-optical element.

Claim 26 (currently amended): The optical device as recited in claim 21 wherein the first and second ~~beam splitting devices-dispersive elements~~ are parts of a same optical component.

Claim 27 (currently amended): The optical device as recited in claim 26 wherein the same optical component ~~includes a dispersive element is a prism~~.

Claim 28 (canceled)

Claim 29 (canceled)

Claim 30 (previously presented): The optical device as recited in claim 21 wherein the control element includes a tilting mirror.

Claim 31 (canceled)

Claim 32 (previously presented): The optical device as recited in claim 21 wherein the control element is disposed upstream of the first beam splitting device.

Claim 33 (previously presented): The optical device as recited in claim 23 wherein the control element is configured to adjust an angle of incidence of the first light beam on the first interface.

Claim 34 (previously presented): The optical device as recited in claim 23 wherein the control element is configured to adjust a striking location of the first beam on the first interface.

Claim 35 (previously presented): The optical device as recited in claim 21 wherein the position detector includes a CCD detector.

Claim 36 (previously presented): The optical device as recited in claim 21 wherein the position detector includes a first detector configured to detect the respective position of each of the reference beams.

Claim 37 (previously presented): The optical device as recited in claim 21 wherein the position detector is configured to simultaneously detect the reference beams.

Claim 38 (previously presented): The optical device as recited in claim 21 wherein the position detector is configured to be calibrated for different respective detectable positions of the reference beams.

Claim 39 (currently amended): A method for generating an illuminating combining first and second light beam beams having different wave lengths for a scanning microscope, the method comprising:

splitting a first reference beam from a-the first light beam using a first beam splitting device dispersive element;

splitting a second reference beam from the second light beam using the first dispersive element;

splitting a second-third reference beam from the first light beam using a second beam splitting device dispersive element;

splitting a fourth reference beam from the second light beam using the second dispersive element;

detecting a-respective positions of the reference beams using a position detector; and
adjusting a propagation direction of the first light beam as a function of the detected
respective positions of the first and third reference beams; and
independently adjusting a propagation direction of the second light beam as a function of the
detected respective positions of the second and fourth reference beams.

Claim 40 (cancelled)

Claim 41 (new): The method recited in claim 39 wherein the first dispersive element and
second dispersive element are part of a single prism.

Claim 42 (new): The method recited in claim 39 wherein adjusting the propagation direction
of the first light beam is carried out using a tilting mirror. .

Claim 43 (new): The method recited in claim 39 wherein adjusting the propagation direction
of the first light beam adjusts a striking location of the first light beam on the first dispersive
element.

Claim 44 (new): The method recited in claim 43 wherein adjusting the propagation direction
of the second light beam adjusts a striking location of the second light beam on the first dispersive
element.